

- - REMARKS - -

Claims 1-42 were pending in the application. Claims 1, 9, 13-16, 18, 19, 21, 22, 24, 25, 27, 34, 35, 37-39, 41 and 42 have been amended. The changes to the amended claim from the previous version to the rewritten version are shown above with brackets for deleted matter and underlines for added matter. New claims 43-45 have been added. No new matter has been added as a result of this amendment.

In the outstanding Office Action, claims 14-20 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, it has been asserted that the claim dependency for claims 14-16, 18 and 19 is incorrect and should each be amended so as to be dependent on claim 13. These claims have been amended accordingly.

In the outstanding Office Action, claims 1-5, 8, 12, 21, 22 and 24 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,017,237 to Webster (hereinafter "Webster"). Claims 1-6, 8-13, 15-22, 24-30 and 32-42 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,632,079 to Kazmer et al. (hereinafter "Kazmer"). Claims 6 and 11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Webster when taken together with U.S. Patent No. 5,919,492 to Tarr et al. (hereinafter "Tarr"). Claims 7, 13-20 and 23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Webster when taken together with U.S. Patent No. 5,135,703 to Hunerberg et al. (hereinafter "Hunerberg"). Claims 7, 14, 23 and 31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kazmer when taken together with Hunerberg.

The claim rejections 35 U.S.C. §§ 102 and 103 are respectfully traversed. The claims have nevertheless been amended to clarify the claimed invention and to eliminate any ambiguity that may have been the basis for the rejection. In particular, each of the independent claims have been amended to further define aspects of the present invention that are neither disclosed nor suggested by the prior art.

As explained in the specification for the present application, the sequential molding of articles generally refers to a method whereby a molten material is injected into a mold having a plurality of cavities one cavity at a time. Filling each cavity

separately reduces the amount of clamping pressure needed to hold the mold halves together. Prior art sequential molding methods, however, are difficult to control because of problems associated with the shifting of the injection process from one cavity to the next. For example, as the first cavity is filled to near its capacity, the pressure within the molten material increases substantially. When the second cavity is subsequently opened, the elevated pressure causes the molten material to rapidly flow into the second cavity. This rapid flow can be difficult to measure and may cause defects in the molded article. The present invention overcomes this problem by integrating a step into the method whereby the pressure applied to the molten material during the injection of the first cavity is reduced or eliminated prior to injecting the molten material into the second cavity. For example, the resin feeding screw that is used to inject the molten material into each of the cavities may be allowed to retreat or deactivated for a short period of time in between the filling of each cavity (see the Specification at page 6, lines 22-29). These features and limitations are disclosed by the prior art.

Independent claims 1, 25, 35 and 39 are each directed to methods for sequentially injecting molded articles. Independent claim 13 is directed to an injection molding apparatus and independent claim 21 is directed to controller for use with an injection molding apparatus, both of which are adapted for use in sequential injection molding methods. Each of these claims requires that the injection pressure that is applied to the molten material during the injection of molten material into the first mold cavity be reduced or substantially eliminated before commencing the injection of the molten material into the second mold cavity. None of the prior art references cited by the Examiner disclose or suggest this limitation. As a consequence, independent claims 1, 13, 21, 25, 35 and 39 are not rendered unpatentable by any of the references, either alone or if combined. Claims 2-12, 14-20, 22-24, 26-34, 36-38, 40-41 and 43-45 are each dependent on one of these independent claims are therefore likewise patentable.

Independent claim 42 is also directed to method for sequentially injecting molded articles. This claim, however, requires a stroke sensor for monitoring the position of the resin feeding screw and transmitting the screw position data to a controller. Moreover, this claim requires the step of the re-setting the controller from a first cavity filled

position to a second cavity starting position after the first cavity is filled and prior to filling the second cavity. As explained in greater detail in the specification, this feature prevents errors in the molding operation that may result from changes in the screw position that may occur after the first mold cavity has been filled, but prior to injecting material into the second mold cavity. None of the prior art references cited by the Examiner disclose or suggest this feature or the limitations of this claim. As a consequence, independent claims 42 is not rendered unpatentable by any of the references, either alone or if combined.

The pending claims are believed to truly distinguish over the prior art and to be in condition for allowance. Accordingly, such allowance is now earnestly requested. If for any reason the Examiner is not able to allow the application, he is requested to contact the Applicants' undersigned attorney at (312) 321-4273.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Milz', written over a horizontal line.

Michael E. Milz
Registration No. 34,880
Attorney for Applicants

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200